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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

RADTKE, MARK A

ART UNIT

PAPER NUMBER

2165

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DELIVERY MODE

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/797,669	Applicant(s) GUPTA ET AL.	
	Examiner MARK A. X RADTKE	Art Unit 2165	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-58 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-58 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 22 October 2009 has been entered.

Remarks

2. In response to communications filed on 22 October 2009, claim(s) 1, 13, 19, 27, 33, 42, 48, 50 and 56 is/are amended per Applicant's request. Therefore, claims 1-58 are presently pending in the application, of which, claim(s) 1, 13, 19, 27, 33, 42, 48, 50 and 56 is/are presented in independent form.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

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(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-4, 6-22, 23-36 and 38-58 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau (U.S. Pat. No. 6,421,711) in view of Wang (U.S. Pat. No. 7,155,463).

As to claim 1, Blumenau teaches a system configured to simplify management of a clustered storage system having a plurality of failover modes (see Abstract), the system comprising:

a user interface system that allows a user to define a plurality of failover modes (see columns 28-31, "Graphical User Interface for Virtual Ports" and see column 34, line 60 – column 35, line 6) in a clustered storage system (see column 41, line 35, "cluster"); and

a command set implemented by the user interface system configured to set a cluster mode, the cluster mode including at least one of the plurality of failover modes in which a storage system is to operate (see column 33, lines 29-52, see cols. 34-35, spanning paragraph and see col. 11, ll. 43-55).

Blumenau does not explicitly teach wherein each failover mode automatically configures one or more ports on a selected storage system or a partner storage system in response to a failover condition, wherein the partner storage system is configured to receive requests directed to the partner storage system and the selected storage system; and

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wherein the command set further provides information specific to the failover operations of the one or more ports to the user on the user interface system.

However, Wang teaches wherein each failover mode automatically configures one or more ports on a selected storage system or a partner storage system in response to a failover condition (see column 7, line 50 – column 8, line 3, "If an error or fault condition occurs..."), wherein the partner storage system is configured to receive requests directed to the partner storage system and the selected storage system (see column 5, lines 22-25, "Each of these logical devices may be made available and addressable" and see columns 4-5, spanning paragraph, "mirror of the local system" and see column 1, lines 42-48 for a definition of mirroring); and

wherein the command set further provides information specific to the failover operations of the one or more ports to the user on the user interface system (see Abstract, "monitoring" and see Figure 14A, "Monitor" and see column 21, lines 15-24).

Therefore, it would have been obvious to one of ordinary skill in the relevant art at the time the invention was made to modify Blumenau by the teaching of Wang for the benefit of enabling "management of multiple devices used for data replication and the data itself [...] while maintaining ease of use and not requiring high degrees of experience and knowledge regarding information technology" (see Wang, column 2, lines 5-13).

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As to claims 2, 34 and 43, Blumenau, as modified, teaches wherein the user interface system comprises a command line interface (CLI) configured to support the command set (see columns 28-31, "Graphical User Interface for Virtual Ports").

As to claims 3, 20-21 and 35, Blumenau, as modified, teaches wherein the command set further comprises an igroup command that determines whether a set of initiators may utilize data access command proxying (see columns 12-21, "Storage Volume Partitioning by Named Groups", where "initiators" is read on "hosts").

As to claims 4, 22 and 36, Blumenau, as modified, teaches wherein the set of initiators comprises at least one fibre channel world wide name (see figure 5, column "Host Controller WWN" and see also column 13, lines 33-34, "host controller port WWN").

As to claims 6, 38, 53 and 55, Blumenau, as modified, teaches wherein the igroup command sets an igroup option to determine whether members of a set of initiators may use a partner port for proxying data access command (see column 15, lines 34-60 and see column 2, line 56 – column 3, line 18).

As to claims 7 and 11, Blumenau, as modified, teaches wherein the command set further comprises a cfmode command that sets a cluster mode for the clustered storage system (see column 12, line 65 – column 13, line 6).

As to claims 8, 14, 24, 28, 39 and 45, Blumenau, as modified, teaches wherein the cluster mode enables the clustered storage system to proxy data access requests received by a first storage system in the clustered storage system to a second storage system in the clustered storage system (see column 15, lines 34-60 and see column 2, line 56 – column 3, line 18 and see column 17, line 9 – column 18, line 5 and see column 10, lines 16-51).

As to claims 9, 15, 25, 29, 40 and 46, Blumenau, as modified, teaches wherein the cluster mode enables a first storage system in the clustered storage system to assume an identity of a second storage system in the clustered storage system (see column 11, lines 31-56).

As to claims 10, 26, 41 and 47, Blumenau, as modified, teaches wherein the cluster mode enables proxying of data access requests received by a first storage system in the clustered storage system to a second storage system in the clustered storage system and further enables the first storage system to assume an identity of the second storage system (see column 15, lines 34-60 and see column 2, line 56 – column 3, line 18 and see column 17, line 9 – column 18, line 5 and see column 10, lines 16-51 and see column 11, lines 31-56).

As to claims 12, 16-18, 30-32 and 44, Blumenau, as modified, teaches wherein the user interface system further comprises a graphical user interface having functionality to implement the command set (See columns 28-31, "Graphical User Interface for Virtual Ports". The phrase "having functionality to" renders the rest of the claim as intended use because the limitations are not positively recited. The limitation of "to implement the command set" will not be given patentable weight, although it is taught by Blumenau.).

As to claim 13, Blumenau teaches a method for simplifying management of a clustered storage system having a plurality of failover modes (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 7 above.

As to claim 19, Blumenau teaches a system adapted to simplify management of a clustered storage system having a plurality of failover modes (see Abstract), the system comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 2 above.

As to claim 27, Blumenau teaches a computer readable medium, including program instructions executing on a computer, for simplifying management of a

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clustered storage system having a plurality of failover modes (see Abstract), the computer readable medium including instructions for performing the steps of:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 7 above.

As to claim 33, Blumenau teaches a system (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claim 42, Blumenau teaches a method (see Abstract), comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 13 above.

As to claim 48, Blumenau teaches a system configured to simplify management of a clustered storage system having a plurality of failover modes (see Abstract), the system comprising:

For the remaining steps of this claim applicant(s) is/are directed to the remarks and discussions made in claim 1 above.

As to claims 49 and 51, Blumenau, as modified, teaches wherein the plurality of failover modes comprises a standby mode, a partner mode, a dual fabric mode, and a mixed mode (see col. 8, ll. 24-45, "Fibre Channel", "dual-redundant paths").

As to claim 50, Blumenau, as modified, teaches a system (see Abstract), comprising:

a first server configured with one or more ports to send and receive messages from one or more clients and the first server connected to a first set of storage devices and a second set of storage devices, wherein the first server is configured to own the first set of storage devices; and

a second server configured with one or more ports to send and receive messages from one or more clients and the second server connected to the first set of storage devices and the second set of storage devices, wherein the second server is configured to own the second set of storage devices (see Blumenau, col. 31, particularly ll. 40-43 and see Abstract, "For convenient partitioning of storage among host processors, one or more virtual ports are assigned to each host, and a set of storage volumes are made accessible from each virtual port." and see figure 4, Hosts 22-25).

For the remaining limitations of this claim, Applicant is directed to Examiner's comments regarding claim 1.

As to claim 52, Blumenau, as modified, teaches wherein the STANDBY mode utilizes standby ports on the first server to allow a second port on the second server to receive and handle data access requests directed to the first server (see col. 8, ll. 24-45, "Therefore, if there is a single failure of any one of the loops or a single failure of any

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one of the port adapters, there will still be an operational path from each host to the internal back-plane busses (33, 34 in FIG. 1) in the cached disk storage subsystem.").

As to claims 54 and 57, Blumenau, as modified, teaches wherein the DUAL_FABRIC mode utilizes one or more virtual ports on the second server to emulate additional active ports for clients (see Abstract, "shared volume").

As to claim 56, Blumenau teaches a system (see Abstract), comprising:

For the remaining limitations of this claim, Applicant is directed to Examiner's comments regarding claim 1 and its dependents.

As to claim 58, Blumenau, as modified, teaches wherein the second port on the second server is a physical port (see column 9, lines 26-32).

5. Claims 5, 23 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blumenau, as modified, as applied to claims 3, 21 and 35, further in view of Clark ("IP SANs: A Guide to iSCSI, iFCP, and FCIP Protocols for Storage Area Networks", Published 26 November 2001, Section 8.5, "Internet SCSI").

As to claims 5, 23 and 37, Blumenau, as modified, teaches wherein the set of initiators comprises one or more identifiers (see columns 9-11, "WWN").

Blumenau, as modified, still does not explicitly teach wherein the identifiers are iSCSI identifiers.

Clark teaches wherein the identifiers are iSCSI identifiers (see pages 2-4, "iSCSI Address and Naming Conventions").

Therefore, it would have been obvious to one of ordinary skill in the relevant art at the time the invention was made to have further modified Blumenau, as modified, by the teaching of Clark because iSCSI is a well-known alternative to Fibre Channel technology and "the iSCSI specification allows for a lower functional level on top of IP to provide services such as IPSec data encryption" (see page 2, section 8.5.2, paragraph 2).

Response to Arguments

6. Applicant's arguments filed on 22 October 2009 with respect to the rejected claims in view of the cited references have been fully considered but are moot in view of the new grounds for rejection.

Additional References

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

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The following patents are cited to further show the state of art with respect to cluster failure GUI in general:

Doc. No.	Assigned to
US 6515968 B1	Combar; Curtis T. et al.
US 7263597 B2	Everdell; Peter B et al.
US 7290017 B1	Wang; Yao et al.
US 7539745 B1	Wang; Yao et al.
US 20020165961 A1	Everdell, Peter B. et al.
US 20030120822 A1	Langrind, Nicholas A. et al.
US 6728849 B2	Kodama; Shoji
US 6748510 B1	Coatney; Susan M.
US 6854072 B1	Cagle; Robert Penn et al.
US 6920579 B1	Cramer; Samuel M. et al.
US 6920580 B1	Cramer; Samuel M. et al.
US 7191225 B1	Borthakur; Dhrubajyoti
US 7194543 B2	Robertson; James A. et al.
US 7203732 B2	McCabe; Ron et al.
US 7111194 B1	Schoenthal; Scott et al.
US 7171452 B1	Gole; Abhijeet
US 7467191 B1	Wang; Fang et al.
US 7529836 B1	Bolen; David Brittain
US 7593996 B2	Gole; Abhijeet et al.

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US 20050015459 A1	Gole, Abhijeet et al.
US 20050015460 A1	Gole, Abhijeet et al.

Conclusion

8. Any inquiry concerning this communication or earlier communications should be directed to the examiner, Mark A. Radtke. The examiner's telephone number is (571) 272-7163, and the examiner can normally be reached between 9 AM and 5 PM, Monday through Friday.

If attempts to contact the examiner are unsuccessful, the examiner's supervisor, Neveen Abel-Jalil, can be reached at (571) 272-4074.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Customer Service at (800) 786-9199.

maxr

/Mark A. X Radtke/
Examiner, Art Unit 2165